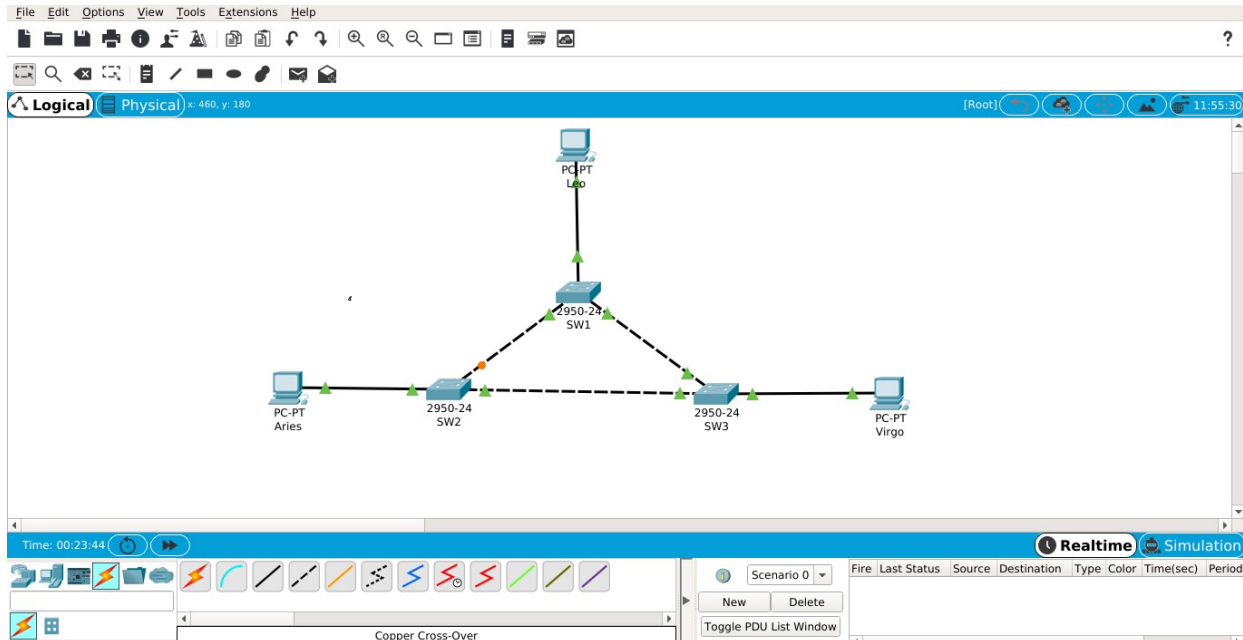


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Kegiatan1. Topologi 1

1. A. Berikut adalah struktur topologi.



2. A. dari struktur jaringan diatas terdapat 3 Switch dan 3 *Workstation*, dengan nama *Switch* yaitu SW1, SW2, dan SW3. Sedangkan *Workstation* ialah Leo, Aries, dan Virgo.
3. Setelah itu konfigurasi setiap *Workstation* dengan IP Address :

○ Leo = 172.21.1.1/24

Leo

Physical Config Desktop Programming Attributes

☐ DHCP ☒ Static

IP Address: 172.21.1.1

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::2E0:8FFF:FE0D:8B5

IPv6 Gateway:

IPv6 DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

☐ Top

○ Aries = 172.21.1.2/24

The screenshot shows the configuration window for a device named "Aries". The "Desktop" tab is selected under the "Config" section. The interface is divided into three main sections: Desktop, IPv6 Configuration, and 802.1X.

Desktop Section:

- ☐ DHCP
- ☒ Static
- IP Address: 172.21.1.2
- Subnet Mask: 255.255.255.0
- Default Gateway: 0.0.0.0
- DNS Server: 0.0.0.0

IPv6 Configuration Section:

- ☐ DHCP
- ☐ Auto Config
- ☒ Static
- IPv6 Address: [Empty] / [Empty]
- Link Local Address: FE80::202:4AFF:FECC:5009
- IPv6 Gateway: [Empty]
- IPv6 DNS Server: [Empty]

802.1X Section:

- ☐ Use 802.1X Security
- Authentication: MD5

At the bottom left, there is a "Top" button.

○ Virgo = 172.21.1.3/24

Virgo

Physical Config **Desktop** Programming Attributes

☐ DHCP ☒ Static

IP Address: 172.21.1.3

Subnet Mask: 255.255.255.0

Default Gateway: 0.0.0.0

DNS Server: 0.0.0.0

IPv6 Configuration

☐ DHCP ☐ Auto Config ☒ Static

IPv6 Address: /

Link Local Address: FE80::20C:85FF:FEA0:B38B

IPv6 Gateway:

IPv6 DNS Server:

802.1X

☐ Use 802.1X Security

Authentication: MD5

☐ Top

4. A. Tampilan masing-masing status STP(*Spanning Tree Protocol*) pada Switch.

SW1

Physical Config **CLI** Attributes

IOS Command Line Interface

```

APPLY completed.
Exiting....
Switch#
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0005.5EAA.02D5
             Cost        19
             Port        3(FastEthernet0/3)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
             Address     000D.BDAD.A092
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface    Role Sts Cost      Prio.Nbr Type
-----
Fa0/1        Desg FWD 19        128.1    P2p
Fa0/2        Desg FWD 19        128.2    P2p
Fa0/3        Root FWD 19        128.3    P2p
Switch#

```

Ctrl+F6 to exit CLI focus

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☐ Top

SW2

PhysicalConfigCLIAttributes

IOS Command Line Interface

Switch>en
Switch#show spanning-tree
VLAN0001
Spanning tree enabled protocol ieee
Root ID Priority 32769
 Address 0005.5EAA.02D5
 Cost 19
 Port 3(FastEthernet0/3)
 Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 32769 (priority 32768 sys-id-ext 1)
 Address 0060.7004.B00A
 Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
 Aging Time 20

Interface Role Sts Cost Prio.Nbr Type

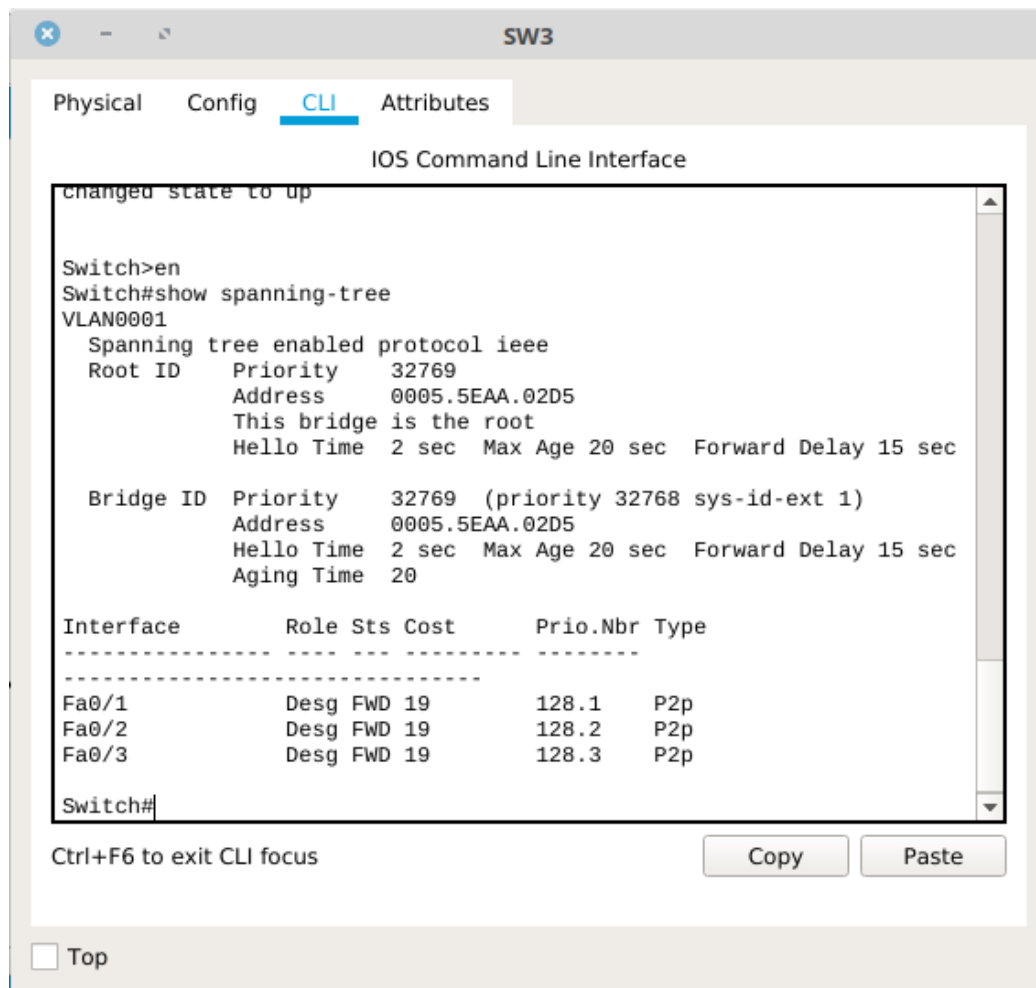
Fa0/1 Desg FWD 19 128.1 P2p
Fa0/2 Altn BLK 19 128.2 P2p
Fa0/3 Root FWD 19 128.3 P2p

Switch#

Ctrl+F6 to exit CLI focus

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☐ Top



B. informasi pada masing-masing switch.

○ SW1

No	Variable	Nilai
	Root ID	
1	Priority	32769
2	MAC Address	0005.5EAA.02D5
	Bridge ID	
3	Cost(0/1;0/2;0/3)	19
4	Hello Time	2 Sec
5	Max Age	20 Sec
6	Forward Delay	15 Sec

○ SW2

No	Variable	Nilai
	RootID	
1	Priority	32769
2	MAC Address	0005.5EAA.02D5
	Bridge ID	

3	Cost(0/1;0/2;0/3)	19
4	Hello Time	2 Sec
5	Max Age	20 Sec
6	Forward Delay	15 Sec

○ SW3

No	Variable	Nilai
Root ID		
1	Priority	32769
2	MAC Address	0005.5EAA.02D5
Bridge ID		
3	Cost(0/1;0/2;0/3)	19
4	Hello Time	2 Sec
5	Max Age	20 Sec
6	Forward Delay	15 Sec

C. Pada kondisi default *Switch* dan *Port* yang menjadi :

- *Root Bridge* ialah **Switch SW3**
- *Designated Bridge* ialah **Switch SW1**
- *Root Port* ialah **Fa0/3** pada **SW1** dan **Fa0/3** pada **SW2**
- *Designated Port* ialah **Fa0/1** dan **Fa0/2**

D. Pada kondisi default port yang :

- Berada pada keadaan *forwarding* pada **SW1(Fa0/1, Fa0/2, dan Fa0/3)**, **SW2(Fa0/1 dan Fa0/3)**, dan **SW3(Fa0/1, Fa0/2, dan Fa0/3)**.
- Berada pada keadaan *blocking* pada **SW2 (Fa0/2)**.

5. A. Ping dari PC Leo ke PC Virgo :

```

Packet Tracer PC Command Line 1.0
C:\>ping 172.21.1.3

Pinging 172.21.1.3 with 32 bytes of data:

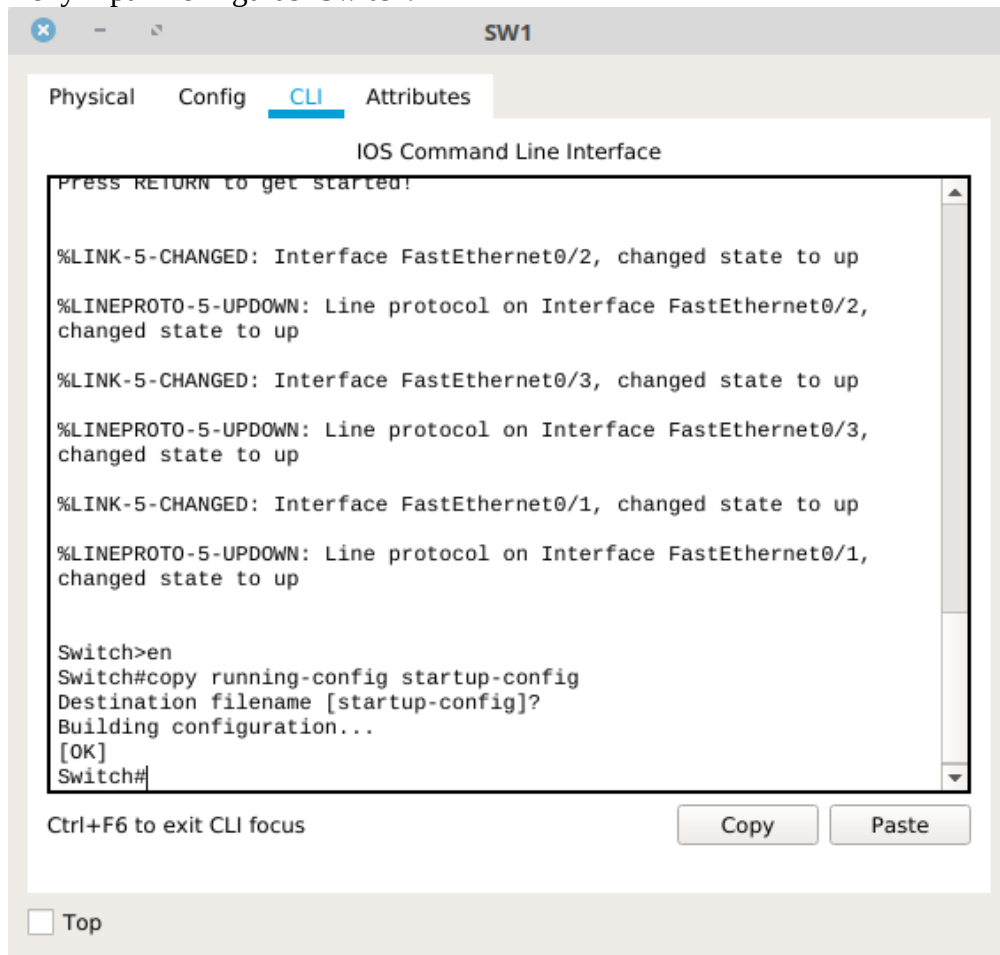
Reply from 172.21.1.3: bytes=32 time=48ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128
Reply from 172.21.1.3: bytes=32 time<1ms TTL=128

Ping statistics for 172.21.1.3:
    Packets: Sent = 4, Received = 4, Lost = 0 (0% loss),
    Approximate round trip times in milli-seconds:
        Minimum = 0ms, Maximum = 48ms, Average = 12ms

C:\>|

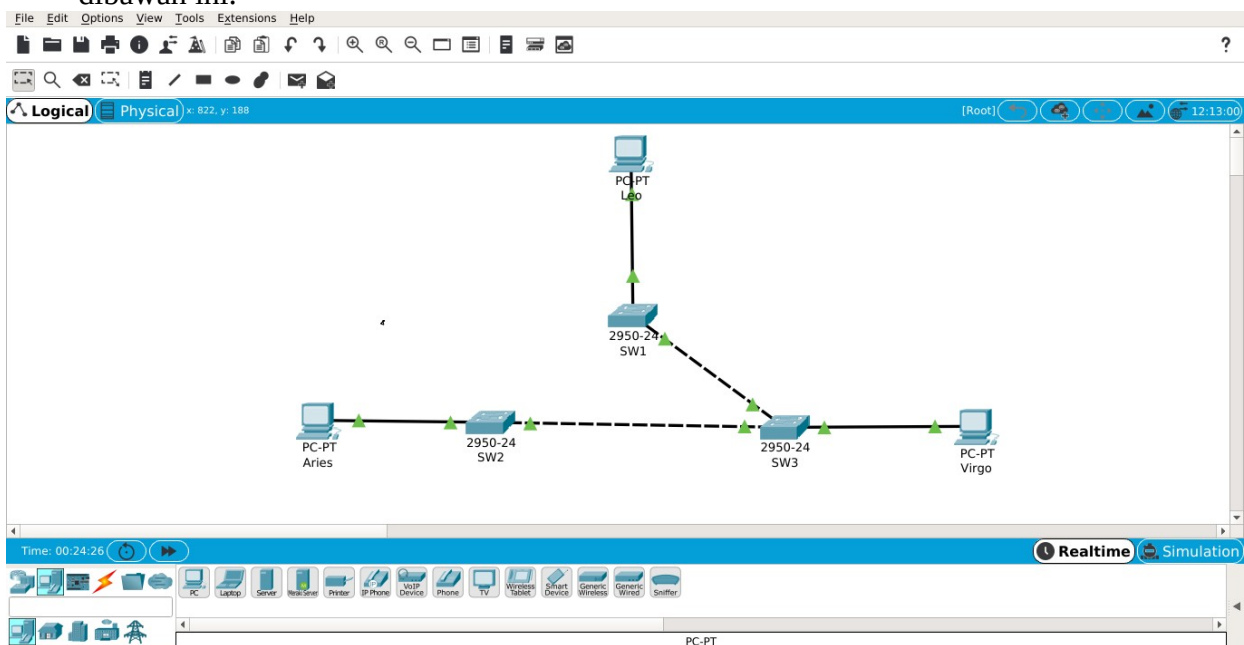
```

6. A. Menyimpan konfigurasi Switch.



Kegiatan 2. Topologi 2

1. menggunakan Packet Tracer mengubah struktur jaringan sebelumnya menjadi seperti dibawah ini.



9. A. Setelah mengubah struktur topologi jaringan selanjutnya lakukan seperti pada kegiatan 1 No 4 menentukan kondisi *defaul* tersebut, *switch* dan *port* dengan mengetik **show spanning-tree** pada masing-masing *Switch* .

- Menjadi *root bridge* adalah **SW3**
- Menjadi *designated bridge* adalah tidak ada yang memiliki jalur terblok.
- Menjadi *root port* adalah **SW1 (Fa0/3) dan SW2(Fa0/3)**.
- Menjadi *designated port* adalah tidak ada *designated port* karena pada *designated bridge* tidak ada jalur yang ter blok.

Pada semua switch semua port pada keadaan *Forwarding*, tidak ada port yang ter *Blocking*.

```
Switch>en
Switch#show spanning-tree
VLAN0001
  Spanning tree enabled protocol ieee
  Root ID    Priority    32769
             Address     0005.5EAA.02D5
             Cost        19
             Port        3(FastEthernet0/3)
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec

  Bridge ID  Priority    32769 (priority 32768 sys-id-ext 1)
             Address     000D.BDAD.A092
             Hello Time  2 sec  Max Age 20 sec  Forward Delay 15 sec
             Aging Time  20

Interface                Role Sts Cost      Prio.Nbr Type
-----
Fa0/3                    Root FWD 19        128.3    P2p
Fa0/1                    Desg FWD 19        128.1    P2p

Switch#
```

Ctrl+F6 to exit CLI focus

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SW2

PhysicalConfigCLIAttributes

IOS Command Line Interface

Switch>en
Switch#show spanning-tree
VLAN0001
Spanning tree enabled protocol ieee
Root ID Priority 32769
 Address 0005.5EAA.02D5
 Cost 19
 Port 3(FastEthernet0/3)
 Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 32769 (priority 32768 sys-id-ext 1)
 Address 0060.7004.B00A
 Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
 Aging Time 20

Interface Role Sts Cost Prio.Nbr Type

Fa0/3 Root FWD 19 128.3 P2p
Fa0/1 Desg FWD 19 128.1 P2p

Switch#

Ctrl+F6 to exit CLI focus

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☐ Top

SW3

PhysicalConfigCLIAttributes

IOS Command Line Interface

Switch>en
Switch#show spanning-tree
VLAN0001
Spanning tree enabled protocol ieee
Root ID Priority 32769
 Address 0005.5EAA.02D5
 This bridge is the root
 Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec

Bridge ID Priority 32769 (priority 32768 sys-id-ext 1)
 Address 0005.5EAA.02D5
 Hello Time 2 sec Max Age 20 sec Forward Delay 15 sec
 Aging Time 20

Interface Role Sts Cost Prio.Nbr Type

Fa0/1 Desg FWD 19 128.1 P2p
Fa0/2 Desg FWD 19 128.2 P2p
Fa0/3 Desg FWD 19 128.3 P2p

Switch#

Ctrl+F6 to exit CLI focus

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